

REMARKS

The present Amendment is in response to the Final Office Action mailed April 20, 2004 and the Interview Summary prepared August 3, 2004 in the above-identified patent application. Enclosed herewith is a Petition requesting a one-month extension of time for resetting the deadline for responding to the Final Office Action from July 20, 2004, to and including August 20, 2004.

Applicants appreciate Examiner Tugbang's willingness to conduct a telephone interview of the present application on August 3, 2004. Applicants have reviewed and agree with the substance of the interview set forth in the Interview Summary.

Applicants acknowledge and appreciate the Examiner's allowance of claims 75 and 76, and indication that claims 53, 56-61, 69-71 and 73 contain allowable matter.

In the present Amendment, claim 52 has been amended at line 12 thereof to add the term --element-- after "second microelectronic." This amendment was made to provide proper antecedent basis for the recitation "second microelectronic element" in line 14 of claim 52.

In the Final Office Action, the Examiner rejected claims 52, 54, 62-68, 72 and 74 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 5,067,007 to Kanji et al. Referring to FIGS. 1(A)-1(D) thereof, Kanji discloses a ceramic package including a microchip carrier 2 having an insulated substrate 4 and a cap 5. The microchip carrier 2 contains a semiconductor chip 6 bonded to the insulating substrate via solder bumps 7. The lower surface of the insulating substrate 4 includes electrodes 8 that are connected to electrodes at an upper surface of the insulating substrate 4 by wiring 14A that passes through the substrate 4. Upper ends of lead pins 11 are joined to the electrodes 8 on the lower surface of the insulating substrate 4 by a brazing member 12, and lower ends of the lead pins 11 are joined to the electrodes 3 on the printed wiring board 1 using solder 13. When a compressive load is

received in an axial direction, the lead pins 11 bend, as shown in FIG. 1(C).

In contrast, in one preferred embodiment of the present invention, a microelectronic assembly (FIGS. 10A-10F) includes a connection component 914 such as a dielectric sheet having a first surface 922 and a second surface 920 remote therefrom. The dielectric sheet 914 preferably includes a plurality of flexible, conductive leads 926 having terminal ends 924 permanently attached to dielectric sheet 914 and tip ends 928 releasably attached to dielectric sheet 914. The first surface 922 of dielectric sheet 914 also preferably includes one or more connection component contacts 970. The assembly also includes a first microelectronic element 912 having a contact bearing face 916 with a plurality of contacts 918. Referring to FIG. 10B, the first microelectronic element 912 is abutted against the dielectric sheet 914 and the tip ends 928 of leads 926 are secured to the contacts 918.

Referring to FIG. 10C, a second microelectronic element 972 having a contact bearing face 974 including contacts 976 and a rear surface 978 remote therefrom is juxtaposed with the back surface 934 of the first microelectronic element 912. An adhesive 980, such as a thermally conductive adhesive, is provided between the opposing rear surfaces 934, 978 of the first and second microelectronic elements 912, 972.

Referring to FIG. 10D, a wire bonding tool (not shown) is utilized to electrically interconnect chip contacts 976 of the second microelectronic element 972 with the connection component contacts 970 of dielectric sheet 914. Each conductive wire 932 preferably has a first end 960 bonded to one of the chip contacts 976 of the second microelectronic element 972 and a second end 962 bonded to a dielectric sheet contact 970.

Referring to FIG. 10E, the first and second microelectronic elements 972, 912 are moved away from dielectric sheet 914 in a controlled manner. As the microelectronic elements 912, 972 and dielectric sheet 914 move away from one another, the tip ends 928 of flexible leads 926 are released from the top surface 922 of dielectric sheet 914. The

conductive leads 926 are bent into the substantially s-shaped configuration shown in FIG. 10e, thereby enabling the leads to flex and bend during operation of the assembly. As the microelectronic elements 912, 972 move away from dielectric sheet 914, the conductive wires 932 flex and bend to account for the increased distance between the contacts 976 of second microelectronic element 972 and the connection component contacts 970.

In response to the Examiner's Section 102(b) rejection, Applicants respectfully assert that claim 52 is unanticipated by Kanji because steps a-c of the claim have an inherent order with respect of the claimed elements of the "connection component," "first microelectronic element" and "second microelectronic element." Kanji does not teach the inherent order of steps a-c as recited in claim 52.

Claim 52 is also unanticipated because Kanji does not disclose a method of making a microelectronic assembly including "providing a connection component having a first surface including conductive leads and contacts, said conductive leads having terminal ends permanently secured to said connection component and tip ends releasably secured to said connection component." Clearly, Kanji does not disclose leads having "tip ends releasably secured to said connection component." Applicants also respectfully assert that claim 52 is unanticipated because Kanji neither discloses nor suggests the step of "attaching a second microelectronic [element] having contacts to a back surface of said first microelectronic element, wherein the contacts of said second microelectronic element face away from the first surface of said connection component." Claim 52 is also unanticipated because Kanji does not disclose the step of "after the wire bonding step, moving said first and second microelectronic elements through a preselected displacement relative to said connection component so as to deform the bonding wires and the leads."

For all of these reasons, claim 52 is unanticipated by Kanji and is otherwise allowable. Claims 53-54 and 61-74 are also unanticipated, *inter alia*, by virtue of their dependence

from claim 52, which is unanticipated for the reasons set forth above.

The Examiner also rejected claim 55 under 35 U.S.C. § 103(a) as being unpatentable over Kanji in view of Japanese Patent Publication JP 2-20032. The Examiner has cited JP 2-20032 as teaching introducing a curable material for sealing a connection component. In response, Applicants respectfully assert that JP 2-20032 does not overcome the deficiencies noted above in Kanji. Thus, claim 55, which depends from claim 52, is unobvious and is otherwise allowable. Claims 56-60 are allowable by virtue of their dependence from claim 55.

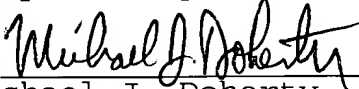
In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue.

If, however, for any reason the Examiner does not believe that such action can be taken at this time, it is respectfully requested that he telephone Applicants' attorney at (908) 654-5000 in order to overcome any additional objections which he might have.

If there are any additional charges in connection with this requested amendment, the Examiner is authorized to charge Deposit Account No. 12-1095 therefor.

Dated: August 4, 2004

Respectfully submitted,

By 
Michael J. Doherty

Registration No.: 40,592
LERNER, DAVID, LITTENBERG,
KRUMHOLZ & MENTLIK, LLP
600 South Avenue West
Westfield, New Jersey 07090
(908) 654-5000
Attorney for Applicant

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